

What is claimed is:

1. An active catalyst having a protective coating material wherein the catalyst is prepared by the process comprising the steps of:

a. combining a hydrocarbon material having a congealing point of from about 110°F to about 250°F with a powdered catalyst having an average particle size of from about 1 μ to about 225 μ in a low-shear jacketed blender to form a mixture wherein said catalyst is uniformly dispersed throughout said hydrocarbon, said low-shear jacketed blender selected to minimize catalyst attrition and being set to maintain a temperature that is from about 0°F to about 50°F above the congealing point of said hydrocarbon material;

10 b. transferring said mixture from said low-shear jacketed blender to a pastillator at a temperature sufficient to maintain said hydrocarbon material in a semi-solid phase; and

c. depositing at a blender end of said pastillator a plurality of drops of said mixture onto a steel belt cooler of predetermined length, and transporting said drops to a discharge end of said pastillator while cooling said drops to a temperature low enough to solidify said hydrocarbon phase to form pastilles having a diameter of from about 2 mm to about 100 mm and a thickness of from about 1 mm to about 10 mm.

2. The catalyst of Claim 1 wherein said pastilles are spherical, hemispherical, ellipsoidal, oval, domed, flakes and combinations thereof.

20

3. The catalyst of Claim 1 wherein said low-shear jacketed blender maintains a temperature that is from about 0°F to about 20°F above the congealing point of said hydrocarbon material.

25

4. The catalyst of Claim 1 wherein said blender has at least one paddle and said paddle is positioned within said blender so as to minimize attrition of said catalyst.

5. The catalyst of Claim 1 wherein said catalyst is reduced.

6. The catalyst of Claim 1 wherein said hydrocarbon material is selected from epoxy resin, fatty acids, fatty alcohols, fatty esters, fatty stearates, hydrocarbon resins, microcrystalline paraffins, synthetic wax, paraffin wax, polyesters, polyethylene glycol, polyethylene waxes, polyglycols, polyvinyl alcohols, polystyrene, vegetable waxes, a wax obtained from processes using coal, natural gas, bio-mass, or methanol as feedstock, a synthetic wax produced from a Fischer-Tropsch reaction, wax blends and combinations thereof.

10 7. An active catalyst having a protective coating material wherein the catalyst is prepared by the process comprising the steps of:

a. combining a hydrocarbon material having a congealing point with a powdered catalyst in a low-shear jacketed blender to form a mixture wherein said catalyst is uniformly dispersed throughout said hydrocarbon, said low-shear jacketed blender being set to maintain a temperature that is from about 0°F to about 50°F above the congealing point of said hydrocarbon material;

b. transferring said mixture from said low-shear jacketed blender to a pastillator at a temperature sufficient to maintain said hydrocarbon material in the semi-solid phase; and

c. depositing at a blender end of said pastillator a plurality of drops of said mixture onto a steel belt cooler of predetermined length, and transporting said drops to a discharge end of said pastillator while cooling said drops to a temperature low enough to solidify said hydrocarbon phase to form pastilles.

20 25 8. The catalyst of Claim 7 wherein said low-shear jacketed blender maintains a temperature that is from about 0°F to about 20°F above the congealing point of said hydrocarbon material.

9. The catalyst of Claim 7 wherein said catalyst is reduced.

10. The catalyst of Claim 7 wherein said catalyst has an average particle size of from about 1 μ to about 225 μ .

5

11. The catalyst of Claim 10 wherein said catalyst has an average particle size of from about 3 μ to about 150 μ .

12. The catalyst of Claim 7 wherein said hydrocarbon material has a congealing point of
10 from about 110°F to about 250°F.

13. The catalyst of Claim 7 wherein said hydrocarbon material has a congealing point of from about 150°F to about 225°F.

15 14. The catalyst of Claim 7 wherein said hydrocarbon material is selected from epoxy resin, fatty acids, fatty alcohols, fatty esters, fatty stearates, hydrocarbon resins, microcrystalline paraffins, synthetic wax, paraffin wax, polyesters, polyethylene glycol, polyethylene waxes, polyglycols, polyvinyl alcohols, polystyrene, vegetable waxes, a wax obtained from processes using coal, natural gas, bio-mass, or methanol as feedstock, a synthetic wax produced from a Fischer-Tropsch reaction, wax blends and combinations thereof.
20

15. The catalyst of Claim 7 wherein the density of the catalyst is greater than the density of the hydrocarbon material.

25 16. The catalyst of Claim 7 wherein said pastille comprises up to about 65 wt% catalyst.

17. The catalyst of Claim 7 wherein said pastille has a diameter of from about 2 mm to about 100 mm and a thickness of from about 1 mm to about 10 mm.

18. The catalyst of Claim 7 wherein said pastillator has a discharge temperature that is 5 from about 2°F to about 150°F lower than the congealing point of said hydrocarbon material.

19. The catalyst of Claim 7 wherein said blender has at least one paddle and said paddle is positioned within said blender so as to minimize attrition of said catalyst.

10 20. An active catalyst having a protective coating material wherein the catalyst is prepared by the process comprising the steps of:

a. Combining a hydrocarbon material having a congealing point with a powdered catalyst in a low-shear jacketed blender to form a mixture wherein said catalyst is uniformly dispersed throughout said hydrocarbon, said low-shear jacketed blender being set to maintain a temperature that 15 is from about 0°F to about 50°F above the congealing point of said hydrocarbon material;

b. Transferring said mixture from said low-shear jacketed blender to a pastillator at a temperature sufficient to maintain said hydrocarbon material in a semi-solid phase; and

c. Depositing at a blender end of said pastillator a plurality of drops of said mixture onto a steel belt cooler of predetermined length, and transporting said drops to a discharge end of said 20 pastillator while cooling said drops to a temperature low enough to solidify said hydrocarbon phase to form pastilles having a diameter of from about 2 mm to about 100 mm and a thickness of from about 1 mm to about 10 mm.

21. The catalyst of Claim 20 wherein said pastilles are spherical, hemispherical, 25 ellipsoidal, oval, domed, flakes and combinations thereof.